

## **ABSTRACT OF THE DISCLOSURE**

5 The present invention discloses an ultrasonic and infrared transmitter with tunable carrier frequency, which comprises an oscillation frequency, a frequency divider, a multiplexer and an output buffer on an integrated circuit in association with an infrared light emitting diode or ultrasonic transducer to transmit infrared or ultrasonic carrier signals. The oscillation frequency is divided by the frequency divider and sent to one input of the multiplexer which has the other input connected with a user-controlled data, and finally the output buffer outputs the data. The integrated circuit provides two carrier signal output ports, and the carrier signals from these two output ports are inverted to each other, thus the described apparatus can transmit not only infrared carrier signal but also ultrasonic carrier signal.